

characters that they could do little more than speculate about it. Mr. King decides, and rightly, that the cuneiform system of writing was produced by the material upon which the Sumerians and Babylonians wrote. On stone it was comparatively easy to cut linear characters, or even signs in which circles and semicircles occurred; but on clay a circle or a crescent could not be made quickly with the three or four-sided stylus, and the outline of a round, or oval, object had to be represented by a series of wedges. That clay became a popular material for writing upon is proved by the fact that its use extended from Elam in the east to Syria in the west, and from Lake Van in the north to the head of the Persian Gulf in the south; the cuneiform system of writing was in use continuously in Mesopotamia for about 4500 years.

Passing next to the decipherment, in an interesting chapter there is set before us the history of the discovery of the Persepolitan inscriptions by early travellers, such as Antonio de Gouvea and Garcia de Sylva y Figueroa, Pietro della Valle and others; the first useful copy of these was made in 1765 at Persepolis by the great Niebuhr. The first successful step towards decipherment was made by Grotefend, but it was not until 1837, when the late Sir Henry Rawlinson took the matter up, that any substantial results were obtained. Mr. King gives us copies of the inscriptions from which Sir Henry recovered the names of Darius, Hystaspes, and Xerxes, and clearly explains his method step by step, and two "cuts" give us an idea of the situation of these important inscriptions on the rock at Elwend and of the famous trilingual inscription at Behistun. The narrative of the manner in which Sir Henry overcame all difficulties is extremely interesting, and the world owes almost as much to his physical as to his mental energy.

Want of space prevents us from doing more than mention the Susian and Babylonian texts at Behistun, and we therefore pass on to note that the third chapter is devoted to a description of the system in which cuneiform characters are employed as syllables, ideographs, and determinatives. It is astonishing that the Assyrians or Babylonians did not reduce their cumbrous syllabary to an alphabet, as did the Egyptians and the Persians. Following this description we have a good selection from the Assyrian syllabary, printed in the cuneiform character, with syllabic and ideographic values, &c. The latter part of Mr. King's work contains a series of interesting extracts from cuneiform texts, with transliteration and translation arranged with them either interlinearly or on the opposite page, and the last few pages of the volume are devoted to a small glossary. For a book of the size no one could expect long dissertations on abstruse points of grammar or history, it being clearly understood that for matters of this kind the advanced student must consult the larger works on Assyriology.

The little volume before us is admirably suited for the purpose for which it is intended, viz., to enable the beginner to lay hold upon the first principles of the Assyrian language, and the frequent use of cuneiform type throughout its pages will help him to become familiar with the difficult character in which the sages of Mesopotamia in all ages seem to have written down their wisdom. The cuneiform type is clear and very legible,

NO. 1678, VOL. 65]

and is, if we mistake not, copied from the fount which was specially cast for Rawlinson's "Cuneiform Inscriptions," but was at the last moment abandoned in favour of lithographic copies of texts made first by Mr. Bowler and after his death by Mr. Jankowski.

ELEMENTARY HISTOLOGY AT CAMBRIDGE.

Practical Histology. By J. N. Langley, M.A., Sc.D., F.R.S. Pp. viii + 340. (London: Macmillan and Co., Ltd., 1901.) Price 6s.

THIS book is an embodiment of directions for practical work in animal histology, which the author, as the result of twenty years' experience, has been led to regard as best suited to the requirements of the elementary student, with the greater part of those of the histological section of the last edition of the "Practical Physiology and Histology," by Sir M. Foster and himself—one of the best established of the famous red-cover series of didactic manuals for students, which have done so much for the practical side of modern scientific instruction. The body of the book (286 pp.) is divided into thirty-six lessons, of which the first eight are devoted to methods and the use of the microscope and microtome. Those numbering nine to thirty-five are set aside for the tissues and organs, and the thirty-sixth deals very slenderly with the main facts of cell-division. In each of these "lessons" there are first given such accounts of the organs and tissues as are necessary for manipulative purposes, and descriptions of methods of treatment likely to yield constant results in the student's hands. There follows for each lesson, under the heading "Demonstrations," a list of objects to be correlatively studied or examined; and finally (in small type) a series of "Notes," having reference to cognate and alternative objects of interest and to methods supplementary to those described in the body of the lesson, with especial reference to such as require particular skill and attention or are variable and uncertain in their action. *Apropos* of this arrangement (which is but an extension of that adopted for the volumes which preceded the present one) and the "Notes," the author points out, with commendable care, that he has been careful to avoid making manipulation too much of an end in itself; and he thereby introduces a welcome check to the tendency on the part of pure histology to lapse into a mere laborious idleness.

The book is up to date and evenly balanced, and is sure of success equal to that of its predecessors. In his acknowledgments to those who have helped him the author naïvely alludes to the "unending suggestions" for "modifications in procedure," and we have these in evidence in many of the pages of the book.

It may now more than ever be said of animal histology that the history of its progress is that of method, since, on this basis, the far-reaching generalisations of Ramon y Cajal, which but seven years ago threatened to revolutionise our conceptions of the structure and mode of action of the nervous and sensory epitheloid apparatus, are by Apathy and others being challenged. Cajal's methods receive recognition in the present work. While we could hardly expect this for Apathy's until more fully confirmed, we could desire a fuller recognition of the discovery by Dogiel of the double innervation of

Meissner's corpuscle, and of the rapidly accumulated evidence of the same condition in that of the Pacinian, Herbstian, and even the Grandryian type. This discovery, which we owe to Dogiel and his pupils, with Timofeev and Sala, imparts a new character to the tactile body in all its forms; and it marks one of the most welcome and important advances in recent histological work, demanding the attention of even the elementary student. If only it had been made in Cambridge!

OUR BOOK SHELF.

A Catalogue of the Lepidoptera of Ireland. By W. F. De Vismes Kane. With a coloured plate. Pp. xviii + 166. (London: West, Newman and Co., 1901.) Price 10s.

THE earliest catalogues of Irish Lepidoptera were published by the Rev. Joseph Greene and the Rev. A. R. Hogan in 1854 and 1855 in the first two volumes of the *Natural History Review*, but were merely tentative, not only being very incomplete, but including many species on the evidence of collections without history, or else taken in localities where they were almost certainly introduced. These authors enumerated 636 species as Irish. The late Edwin Birchall's list, published in the *Entomologists' Monthly Magazine* from 1866 to 1868, was a much more valuable work. Mr. Birchall enumerated 974 species, though several included in the former lists were very properly omitted. The list now before us, which was originally published in the *Entomologist* from 1893 to 1900, is carefully compiled, chiefly from original sources, and brings down the subject to the present time; but the species are not numbered, and no comparison is made, as should have been done, with the number given in Mr. Birchall's catalogue.

Mr. De Vismes Kane's book will be very useful to entomologists visiting Ireland, or to those anxious to study the character of the Irish fauna from a Lepidopterous point of view. This is discussed by the author in his introduction, in which he refers not only to the comparative poverty of the fauna, both as regards number of species and of individuals, even in comparison with England, but states that the climate has been so unfavourable to insects of late years that they have become still scarcer than before, while some species, formerly common in certain localities, have apparently disappeared entirely. On p. xviii. the author alludes to his having assisted Colonel Cooper in 1885, 1886 and 1887 in the attempt to introduce various Continental species into Sligo, experiments which, happily, failed. He adds: "The attempted acclimatisation of such exotics as the above I consider wholly unobjectionable, since if it were successful, none of the species could have been mistaken for natives." Among these "unobjectionable species" was *Porthetria* (or *Liparis*) *dispar*, the gipsy moth, the introduction of which might have been one of the most grievous calamities that has befallen Ireland for many years; and this gives us the opportunity of suggesting that the Government should absolutely prohibit the rearing of any species in the open which are known to be destructive abroad, notwithstanding their being rare or unknown in the British Islands; while a specially heavy penalty should be attached to the introduction of living specimens in any stage or for any purpose of such species as *Liparis dispar*, as in the case of the not more destructive Colorado potato beetle. What would Colonel Cooper have thought if in a few years he had found that the whole of his forests were being stripped of their leaves by the larvae of *Liparis dispar*, as might easily have been the case had the climate and conditions proved favourable to the insect?

An Atlas of the Medulla and Midbrain. By Florence R. Sabin. Pp. 123; 7 coloured plates, one black plate and 52 figures. (Baltimore, Md., U.S.A.: The Friedenwald Company, 1901.) Price 175 dollars.

THIS book consists of a detailed account of a model of the medulla oblongata, pons Varolii and mesencephalon, which was made in the anatomical laboratory of the Johns Hopkins University by a reconstruction in wax of every alternate slice of a series of horizontal sections of the brain-stem of a new-born babe. The sections had been stained by the method of Weigert, so as to differentiate clearly the various nerve tracts, which are so distinct, the one from another, at the time of birth.

In the reconstruction only the important nerve tracts and the compact masses of grey matter have been represented, so that a glance at the model reveals the exact shape and relations of the peculiarly-contorted grey-masses and intertwining fibre-tracts, and enables the student to form an accurate mental picture of the most complicated and difficult region of the brain, such as no other method of study can convey.

Miss Sabin has carried out the arduous and laborious task of building the reconstruction in a manner so careful and patently successful that for the first time an accurate and trustworthy model is provided of a region which so many people have hitherto attempted to represent graphically by less tedious and correspondingly more inaccurate means.

The series of drawings representing the wax reconstruction has been so happily executed by Mr. Max Brödel that the model itself is hardly necessary.

Miss Sabin's description is full and complete and is illustrated by a large number of drawings both of the horizontal sections, from which the model was built up, as well as a "control series" of transverse sections of another brain-stem of the same age.

The view obtained of familiar structures is so novel, and one's attention so riveted in the mental accommodation, that the reader hardly looks for new observations. Nevertheless, the author has not only critically summarised the current literature of the structure of the medulla, pons and midbrain, but has also added to our knowledge of these regions.

The bibliography, which is intended for students, attains the happy mean of being sufficient without being bewildering.

In a work which is so happily conceived and so admirably executed there is little call for criticism. In perusing the work we noticed only one misprint. One of the figures (Fig. 50) has been misplaced; and it would be of considerable advantage to the student if Plate viii. were inverted so that the parts might be placed as they are in the body (and in Plate iii.).

This book and the model which it describes must convince anyone, who has carefully studied the structure of the brain-stem by means of the examination of sections, of the inadequacy of the conception of this complex region which he can acquire by such means; and it will be an invaluable aid for conveying to students an accurate understanding of this important part of the brain, which could not otherwise be acquired even by months of careful study.

G. E. S.

Les Variations de Longueur des Glaciers. By Charles Rabot. Pp. 250. (Geneva: Georg and Co., 1900.)

THE study of the variations in the lengths of glaciers is one that has formed the object of investigation of many workers, and as the subject, besides being of considerable interest, is one in which exact information is very difficult to secure, various opinions may be formed as to the lengths of the periods of variations deduced.

What is therefore wanted to render deductions more exact is a great number of observations, spread over a considerable interval of time, and the more the observa-